TECHNOLOGY BASE INITIATIVES

ADVANCE PLANNING

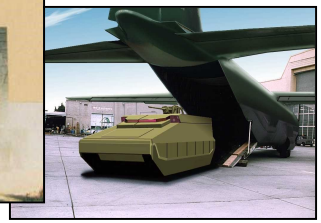
BRIEFING TO INDUSTRY

DR. RICHARD E. McCLELLAND

DIRECTOR

OCTOBER 2005

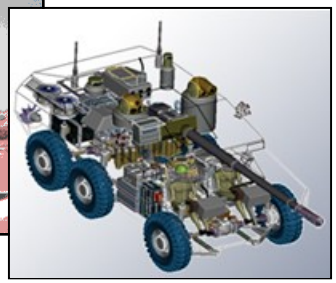
TECHNOLOGY THRUSTS



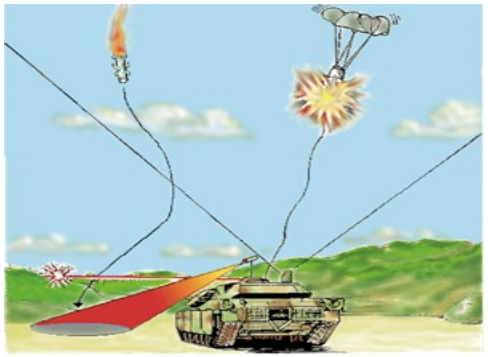
TACTICAL & COMBAT VEHICLES

MECHANICAL COUNTERMINE

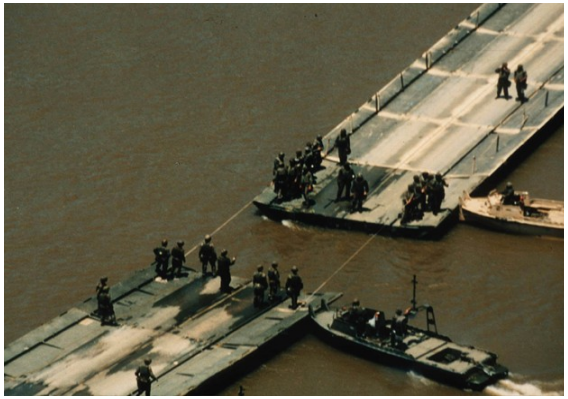
WATER GENERATION & PURIFICATION



MOBILITY ENHANCEMENTS



INTEGRATED SURVIVABILITY



BRIDGING

ROBOTICS

FUELS & LUBRICANTS

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

SURVIVABILITY TECHNOLOGIES

•FCLAS Development	$2.7M	Chang Industries
•Engineering Support	$200K	GS Engineering
•Active Protection Analysis	$210K	MIT / Lincoln Labs
•Engineering Support	$300K	Booz Allen
•System Analysis	$100K	Altarum
•Advanced ATD Structure	$600K	BAE
•Active Defense KE System Dev	$6M	BAE

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

SURVIVABILITY TECHNOLOGIES (Continued)

•Armor Materials Support	$300K		Sandia National Lab
•Adv Joining NDE Concepts		$300K	Michigan State Univ
•Armor Modeling and Effects		$600K	SWRI
•Assymetric Thyristor Switch		$750K	Silicon Power Corp.
•FCS Laser Hardened Vision		$950K	Boeing / McD-Douglas
•Signature Modeling Validation	$1.5M		Thermo Analytics
•Assured Mobility Motion Sim		$120K	Dynamic Animation Sys
•Sensor and Eye Protection		$1.1M	Boeing / McD-Douglas

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

INTELLIGENT SYSTEM TECHNOLOGIES

•Vetronics Technology Integration	$5.5M	GDLS
•Remote Imaging for UGVs	$250K	Lockheed Martin
•ODIS	$2M	Kuchera
•ARV Robotics Technologies	$3M	BAE

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

WATER TECHNOLOGIES

• Water from Air	$1M	Mesosystems/Hamilton Sundstrand
• Water Monitoring	$2M	Wayne State University
• NBC Water Treatment	$2M	ACTI

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

MOBILITY TECHNOLOGIES

•Power & Energy SIL	$7.8M		SAIC
•Bi-Directional DC-DC Converter	$925K		United Silicon Carbide
•Engineering Support	$750K		TPS
•SIL Battery Pack	$1.0M		SAIC
•Ironless Core PM Motor	$200K		Aerovironment
•Differential Cross-Drive Electric System		$500K	BAE Systems
•Prismatic Cells	$625K		SAFT
•K-Tech Heavy Spreader	$200K		K-Tech

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

MOBILITY TECHNOLOGIES (Continued)

•PM Operating Temp Rotor Cooling	$100K		Aerovironment
•Hybrid HMMWV Battery Pack		$250K	Qualion
•5kW Steer Motor Inverter Test	$100K		Premag
•10kW DC-DC Converter Test		$300K	UofM
•Hybrid Modeling & Simulation		$100K	LTU
•Superlattice SiC Materials	$600K		Titan
•SiC Steer Motor HMMWV Integration		$400K	DRS
•6x6 HE Test Bed Upgrade	$400K		NATC
•HE HMMWV Upgrade	$900K		DRS

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

MOBILITY TECHNOLOGIES (Continued)

•HPD Engine Development	$1.45M	DDC/MTU
•Band Track Development	$950K	CTC
•LtWt Steel Track Development	$1.25M	CTC
•Elastomeric Research	$850K	KRC
•Fuel Cell Consultant	$175K	TPS
•SiC MOSFET	$1.25M	IN SOURCE SELECTION
•Technician Support	$400K	TPS

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

BRIDGING COUNTERMINE TECHNOLOGIES

•Lightweight Vehicle Mounted Countermine	$550K	KRC	
•Advanced Modular Composite Bridge		$6.2M	Seemann
•Field Repair Composite Bridges	$750K	Alphastar	
•Innovative Wet Gap Crossing Technologies for FCS	$750K	Triton	
•Rapidly Deployable Gap Defeat Tech for FCS		$1.9M	QinetiQ & GDSBS
•Operational Mobility Across Gaps for the FCS / Future Force (Robotic Bridging)	$780K	TIAX	
•Novel Approaches for Maximum Performance of SELECTION		$70K	IN SOURCE
Lightweight Mechanical Countermine Equipment			

FY O6 CONTRACT ACTIONS

Existing Contracts / 06 Actions

NATIONAL AUTOMOTIVE CENTER TECHNOLOGIES

•Future Tactical Truck System (FTTS) Selection (Adv Phase II)		$17M	In Source Demo
•Ground Vehicle Modeling and Simulation Center	$2.4M	Automotive Research (ARC)	
•Logistical Surge Support	$200K	GSI	
•Engineering Surge Support		$464k	FSSI
•Vehicle Electronic Dev and Integrations		$500K	ASTI
•High Performance Computing	$1.4M	HPC	
•High Fidelity Platform and Terrain Mechanics		$2.7M	DCS

FY O6 COMPETITIVE SOLICITATIONS

Note: Other Solicitations may be released in FY 06

MOBILITY TECHNOLOGIES:

POC: DAN HERRERA, 586.574.6411

➢ JP8 Reformer (2 Awards)		$2M
➢ HMMWV / FMTV Integrated Starter /Generator		$400K
➢ Thermal Management	$500K	
➢ Battery Chemistry Evaluation	$100K	
➢ New Solid State SiC Disconnect	$600K	
➢ High Performance Engine Research		$1.4M

FY O6 COMPETITIVE SOLICITATIONS

INTELLIGENT SYSTEMS TECHNOLOGIES:
POC: DAVE THOMAS, 586.574.6411

- Human Robot Integration (HRI) $1.2M

TARDEC ACQUISITON SUPPORT TEAM REPRESENTATIVE:
CASSANDRA MAXWELL, 586.753.2619

http://contracting.tacom.army.mil/opportunity.htm

FY 06 CONGRESSIONAL ADDS

Comprehensive Listing of Committee Actions

Approximately $100M

- Adv Ground Vehicle Reliability Research
- Low Temperature Vehicle Research
- Adv Coating Systems for Ground Vehicles
- Automotive Research
- Next Generation Joining Technology Research
- Adv Affordable JP-8 PEM Fuel Cell Components for APU and Ground Vehicle Applications
- Advanced Electric Drive
- Center for Tribology and Coatings
- Defense Transportation Energy Research
- Family of Scalable Trailers (FAST)
- Gaming Technology Software Intitiative
- HAMMER
- Hydrogen PEM Ambient Pressure Fuel Cell for Medium / Heavy Duty Ground Vehicle
- Nano-Engineered Multi Functional Transparent Armor
- Nano-Fuels for Adv Military Vehicle Systems
- Plasma JP-8 Fuel Reformer
- Rapid Product Development and Deployment Portal
- Transportable Synthetic Fuel Manufacturing Modules
- Unmanned Vehicle Control Technologies
- Abrams Improved Track
- Advanced Battery Development
- Adv Drivetrains for Enhanced Mobility & Safety
- Adv Technology Integration Environment
- Adv Thermal Management Controls
- All Composite Military Ground Vehicle

FY 06 CONGRESSIONAL ADDS

(Continued)

- Alternative Mobility Vehicles for Special Ops
- Anti-ballistic Windshield Armor
- Armored Composite Cab Development
- Battery Charging Technology
- Lightweight Diesel Engine Initiative
- Center for Innovative Materials Research
- MATTRACKS
- Commercially Based Logistic Support Trucks
- Component Optimization for Ground Vehicles
- Composite Armored Vehicle Technology Transition
- Composite Shelters for Future Tactical Truck & Retrofit of Current Vehicle Shelters
- Detonation System Technology
- Development of Logistical Fuel Processors
- Digital Humans and Virtual Reality for FCS
- Full Spectrum Active Protection Close-in Layered Shield (FCLAS)
- Future Light Weight Military Trailer Chassis
- HAZMAT Material Vacuum System
- HEMTT Structural Weight / Cost Reduction and Efficient Armor Integration
- High Strength Powder Metal Gears for Vehicle Transmissions.
- Hydraulic Hybrid Vehicles
- Light Weight Structural Composite Armor for Blast and Ballistic Protection
- Liquid Hydrogen Storage System
- Mobile Hydrogen Infrastructure
- Next Generation Non-tactical Vehicle Propulsion

FY 06 CONGRESSIONAL ADDS

(Continued)

- Non Line of Sight Cannon (NLOS-C) & Mortar (NLOS-M) Light Weight Technologies Including Aluminum Vehicle Design
- N-STEP Enabled Manufacturing Cell for FCS
- On-Board Secure Telematics for Combat Vehicles
- Pacific Rim Environmental Degradation of Materials
- Personal Mobility Vehicle
- Rocket Propelled Grenade Vehicle Protection System
- Secure Pervasive Computing for Combat Vehicles
- Solid Oxide Fuel Cell Materials and Manufacturing
- Split Cycle Engine Technology
- Virtual Explosives Detection Image Matching
- Adv Mobile Microgrid Liquid Fueler
- Manufacturing Systems Demo
- Power Electronic Systems Research

SMALL BUSINESS INNOVATION RESEARCH (SBIR)

FY 05/06

- 43 Phase I Awards for FY05 Valued at $2,714,587

- 35 Phase II Selections for FY06 Valued at $25,509,904 with an additional $1,570,007 in Options

SMALL BUSINESS INNOVATION RESEARCH (SBIR)

- Pre-Solicitation – MAY 2006
- Open Solicitation – JULY 2006

TARDEC SBIR Managers: Mr. Alex Sandel, 586.574.7545
Mr. Jim Mainero, 586.574.8730